

**Remarks/Arguments**

The foregoing amendments and these remarks are in response to the Office Action, dated December 6, 2004. This Amendment is timely filed.

At the time of the Office Action, claims 1-20 were pending in the application. Claims 1-9, 11-17, 19 and 20 were rejected under 35 U.S.C. §§ 102(b) and 102(e). Claims 10 and 18 were noted as being directed to allowable subject matter.

Claims 1-6, 8-20 have been canceled. Claims 7 and 21-31 are pending; as discussed more fully below, claim 7 has been amended and claims 21-31 are newly presented.

**Art-Based Claim Rejections**

Claims 1-9, 11-17, 19 and 20 were rejected under 35 U.S.C. § 102(b) as being anticipated by each of U.S. Patent No. 5,729,976 to Joos et al. ("Joos") and U.S. Patent No. 6,609,905 to Eroglu et al. ("Eroglu"). Claims 1-4, 6-9, 11-17, 19 and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,588,213 to Newbury ("Newbury"). It is respectfully submitted that these references, alone or in combination, do not teach each and every element of the claims of the present application, as amended. Each of the pending independent claims will be reviewed in turn below.

Claim 7 has been amended to incorporate the limitations of claim 1. The Examiner stated that "a typical swirler has surfaces that are oblique to the flow path in order to create a vortex." Applicant respectfully disagrees that it is inherent that a substantially majority of the surfaces of a "typical swirler" are oblique to the flow path. Moreover, there is no evidence in any of the cited references or elsewhere to suggest that a substantial majority of the surfaces of a swirler are oblique to the flow. Applicant respectfully invites the Examiner provide evidence of such a

swirler. Further, as noted in the specification of the present application, such oblique surfaces can not only can facilitate the formation of a vortex, but can also minimize the flame-holding potential of such surfaces. Such a benefit is not recognized in any of the cited references.

In view of the above, Applicant submits that claim 7 has been distinguished from the disclosures of Joos, Eroglu and Newbury. Applicant respectfully submits that the rejection of claim 7 has been traversed. Consequently, all claims depending from claim 7 are necessarily distinguished over Joos, Eroglu and Newbury. Nonetheless, Applicant wishes to point out claims 21-27, which depend from claim 7, recite additional features of the vortex forming device, such as a substantially pyramidal portion or an arcuate base, that cannot be found in any of the cited references. Moreover, none of the cited references disclose a vortex forming device that is stationary, as recited by new claim 27.

New claim 29 is intended to describe an arrangement in which at least two catalytic modules are associated with a single pilot nozzle. The first catalytic module has an associated vortex forming device positioned in the flow exiting one of the modules, but the second catalytic module does not have an associated vortex forming device. As a result, the flow exiting the second catalytic module is substantially undisturbed. It will be appreciated that such a combination can be used to selectively shape the combustor flame. In contrast, the cited references only disclose arrangements where every catalytic module has an associated swirler. Moreover, the cited references do not indicate any other possibility. For these reasons, Applicant submits that claim 29 distinguishes over the cited art.

New claim 30 clarifies that the entire flow exiting the catalytic module does not have to pass through the vortex forming device. As indicated in the specification of the present

application, experience has shown that the vortex forming devices work well when they are at least about 50% of the height of the catalytic module exit. The references applied by the Examiner only show systems in which the entire flow exiting a catalytic module flows through a swirler. These references do not teach or suggest the possibility of less than all of the flow operatively engaging the vortex forming device. Again, such differences in the size of the vortex forming devices can allow the combustor flame to be selectively shaped as desired.

In light of the above, Applicant respectfully submits that these claims 7, 21-27, 29 and 30 are in a condition for allowance.

#### Allowable Claims

Applicant appreciates the Examiner's indication that claims 10 and 18 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, for the sake of clarity and convenience, Applicant has re-presented claims 10 and 18 as new claims 28 and 31, respectively. These claims substantially track the language and retain the novel features of their original predecessor claims. Applicant respectfully submits that these claims are still in a condition for allowance as they are distinguished for the reasons noted by the examiner and for the reasons set forth above.

Conclusion

In light of the foregoing, it is respectfully submitted that the objections and rejections set forth in the Office Action have been overcome. Accordingly, Applicant respectfully requests that the Examiner reconsider the claims currently pending in the application; withdraw the rejections under 35 U.S.C. § 102; allow the pending claims; and promptly issue a timely Notice of Allowance.

Date: \_\_\_\_\_

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Respectfully submitted,



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